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Bell Telephone MAGAZINE

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A Medium of Suggestion & a Record of Progress

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The Responsibility Of Management In the Bell System

Walter S. Gifford

President, American Telephone and Telegraph Company

IT USED TO BE that the owners of practically every business were themselves the managers of the business. Today, as far as large businesses are concerned, a profound change has taken place. In the Bell System, for instance, employee management, up from the ranks, and not owner management, is responsible for running the business. This management has been trained for its job in the American ideal of respect for the individual and equal opportunity for each to develop his talents to the fullest. A little thought will bring out the important significance of these facts.

Management is, of course, vitally interested in the success of the enterprise it manages, for if it doesn't succeed, it will lose its job. So far as the Bell System is concerned, the success of the enterprise depends upon the ability of management to carry on an essential nation-wide telephone service in the public interest. This responsibility requires that management act as a trustee for the interest of all concerned: the millions of telephone users, the hundreds of thousands of employees, and the hundreds of thousands of stockholders. Management necessarily must do the best it can to reconcile the interests of these groups. Of course, manage-

ment is not infallible; but I maintain that, with its intimate knowledge of all the factors, management is in a better position than anybody else to consider intelligently and act equitably for each of these groups—and in the Bell System there is every incentive for it to wish to do so. Certainly in the Bell System there is no reason either to underpay labor or overcharge customers in order to increase the "private profits of private employers," for its profits are limited by regulation. In fact, there is no reason whatever for management to exploit or to favor any one of the three great groups as against the others and to do so would be plain stupid on the part of management. The business cannot succeed in the long run without well-paid employees with good working conditions, without adequate returns to investors who have put their savings in the enterprise, and without reasonable prices to the customers who buy its services. These conditions have been well met over the years in the Bell System.

Admittedly, this has not been and is not an easy problem to solve fairly to all concerned. However, collective bargaining with labor means that labor's point of view is forcibly presented. What the investor must have is determined quite definitely by what is required to attract the needed additional capital, which can only be obtained in competition with other industries. And in our regulated business, management has the responsibility together with regulatory authorities to see to it that the rates to the public are such as to assure the money, credit and plant that will give the best possible telephone service at all times.

Bell System employees have recently received increases in pay which management agrees are fair but which in most cases will result in earning less than an adequate return for investors pending the time management, with the approval of state regulatory authorities, secures increases in telephone rates.

It is my confident expectation that telephone management will soon again balance fairly the interests of all the parties concerned and go forward in its great task in providing more and better telephone service at a cost as low as fair treatment of employees and a reasonable return to stockholders will permit.

Assisting Business Firms to Improve the Quality of Their Telephone Contacts is an Important Part of Bell System Servicing Activities

Helping Customers Improve Telephone Usage Habits

Justin E. Hoy

"WHO IS HELLO?" This poser is fast assuming its place on the roster of unanswerables, along with its more famous peer, "How long is a piece of string?"

Although someone once defined the length of a piece of string as twice the distance from its center to either end, no one has yet attempted to identify "Hello." Putting "Hello" in its proper place as a poor response to the telephone ring is just one phase of the many-sided job undertaken by the Bell System to improve the telephone usage habits of business customers.

This job is important because it helps those customers to use telephone service more efficiently—thus enabling them to meet their communication requirements with a minimum of facilities. In addition, it contributes to the rendering of a faster and more pleasing service, which in turn encourages use of the telephone as a medium for doing business. These matters are significant to customers and their employees, and to the Bell System's operating companies as well.

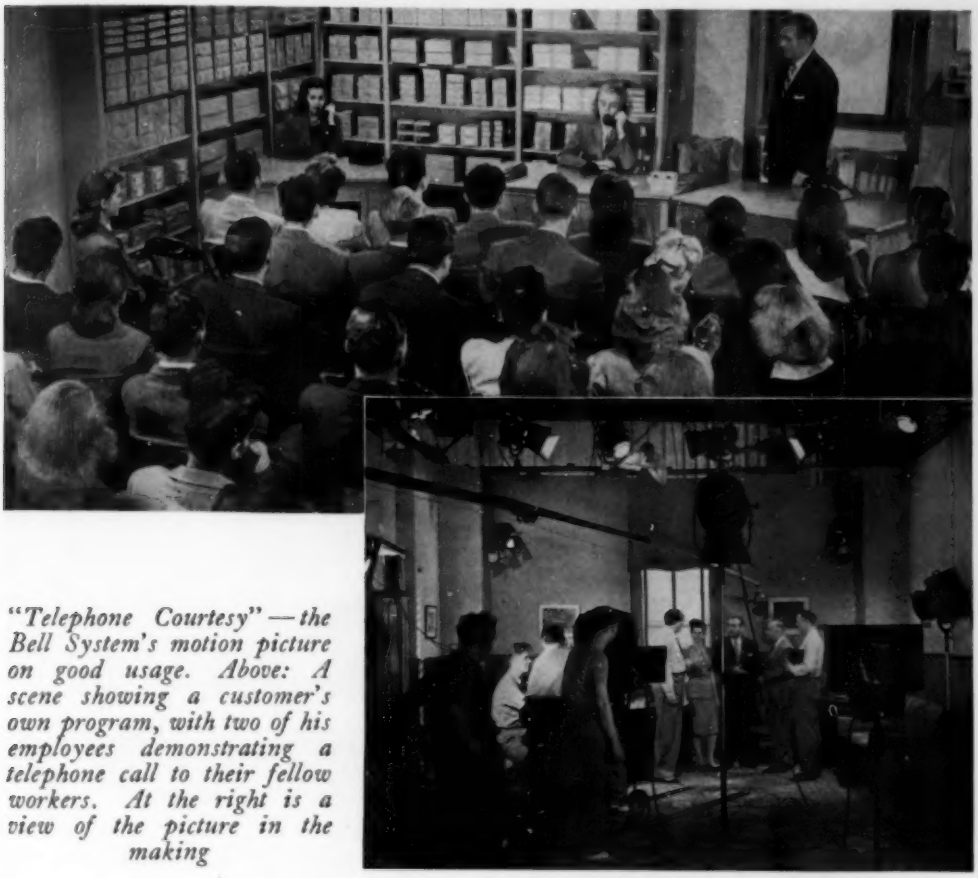
The Elements of Good Usage

GOOD telephone usage is made up of three distinct elements: technique, tone, and effectiveness.

Good telephone technique merely means doing naturally those things which all of us do consciously when we stop to think but sometimes fail to do when we are in a hurry or get careless. Answering the telephone promptly, and answering by name or department, for example.

Good tone in telephone contacts is essentially the evidencing of warmth, interest, and sincerity through the use of a friendly, natural, and cheerful voice.

Calls are considered effective when



"Telephone Courtesy" — the Bell System's motion picture on good usage. Above: A scene showing a customer's own program, with two of his employees demonstrating a telephone call to their fellow workers. At the right is a view of the picture in the making

they accomplish the purpose for which they are made.

ANSWERING the telephone correctly is a simple thing, yet poor answering habits are numerous. We have all encountered the "busy executive" who unconsciously puts his hand on his telephone the second it rings but continues to carry on a conversation with someone at his desk while the telephone rings on and on.

A variation of this is the man who lifts the transmitter to his mouth immediately but continues the conversation with the person who is present, thus permitting the calling party to get a real indication of how busy he is.

In this same category are the poor answering phrases: "Hello," the casual "Yes?", and the newly smart "For whom doth the bell toll?"

These instances of how not to answer the telephone interfere with efficient use because they may cause the line to be held longer than necessary and thus are wasteful of facilities. Failure to answer promptly, and to let the calling party know with whom he is connected, may be annoying.

Other obvious things to watch in using the telephone correctly include calling by number, placing and an-

TWA TELEPHONE MANNERS
Enter Politely – Don't Intrude . . .
On the stage, a bad entrance may mar the entire performance.
TELEPHONE MANNERS TWA
Don't Keep a Caller Hanging On
If you have told a caller you will be back in a moment – come back when you said you would, if only to reassure him that he has not been forgotten and that you are taking care of him. There is nothing quite as exasperating as wondering whether the fellow on the other end has forgotten about you. You've had the experience, haven't you? Don't keep the customer hanging on the wire.
Speak Not as You May Feel at the Moment . . .
Many annoyances both business and personal are apt to irritate us. You must never permit the slightest indication of irritability to be reflected in your voice. It is your constant responsibility to speak not as you may feel at the moment, but as TWA would have you speak. To the caller, yours is the voice of TWA.
BETTER TELEPHONING
SEARS, ROEBUCK AND CO.
RETAIL TRAINING
Company Manners
The why and how of keeping old friends and gaining new ones
New York Central System

Many customers prepare booklets to instruct their own employees in the use of the telephone *

swering one's own calls, leaving word as to one's whereabouts when away, and answering for others in their absence. It is fundamental, of course, to speak clearly and directly into the transmitter and to end a call courteously, being careful to replace the receiver gently. Failure to do these things can also slow up service, be wasteful of facilities, or cause annoyance.

A telephone contact may not fall short in any of the foregoing and yet be lacking in warmth, interest, or sincerity—in other words, be lacking in tone.

This matter of tone concerns not so much what is said as the way it is said; for in a telephone conversation the voice is the only means of conveying impressions which in a face-to-face conversation would be created by a smile or gesture.

Common tone deficiencies fall into two broad categories: (1) failure to show interest and willingness to serve; and (2) failure to be sincere.

We said earlier that telephone calls are effective when they accomplish the purpose for which they are made. Let's consider, for instance, a telephone in a department store in-

* Illustrations courtesy of Trans World Airline, Sears Roebuck & Co., New York Central System.

tended for taking orders: i.e., selling merchandise. To the extent that orders are taken inaccurately—packages sent to Vine instead of Pine Street, for instance—the telephone would be used ineffectively. If a customer calls for an out-of-stock item and is not offered suitable substitutes, the telephone call would not have served its purpose completely, from the standpoint of the customer or the store. Such matters as giving and obtaining complete and accurate information over the telephone and taking advantage of sales opportunities increase the value of the service—which in turn results in its more extended use.

The Opportunities at Hand

SO MUCH for the definitions. Now let's take a look at what the opportunities are, and how the System is taking advantage of them.

In the first place, the job of stimulating better telephone usage practices among business customers is usually a responsibility of sales and servicing people in the Commercial Department of the operating companies. For years these people have helped customers to determine what telephone facilities best meet their communication requirements, and this experience provides a valuable background for the job of promoting good usage. Opportunities for usage improvement arise from customer requests for assistance; or more generally are uncovered by servicing representatives in the course of their regular work. Especially is this true in the case of the larger firms which have many employees and make and receive large numbers of calls.

POMPOUS PETE
Slow answers annoy the person calling, so don't delay when your bell rings.
LOOK UP
THE CORRECT NUMBER
BEFORE
YOU MAKE A TELEPHONE CALL

Two posters and a blotter: examples of colorful material furnished to customers to foster their employees' interest in good telephone habits

Paralleling the work of the commercial people is the activity of the Traffic Departments to increase the efficiency of customers' switchboard attendants. This work is directed not only at maintaining a high level of proficiency in the technical details of switchboard operation on the part of attendants but also at insuring continuing development of good tone and intelligent handling of calls.

Improvement in the calling habits of a firm's employees is usually obtained by programming a series of activities all of which are designed to get across the one story.

Before such a program can be laid out, however, it has been found important to get the customer's agreement to two basic principles. These are, first, that a good-usage program is desirable and has the customer's full backing; and, second, that the customer will devote continuing interest and cooperation to the project. Unless these two conditions obtain, the work of telephone company representatives is handicapped. For if customer management is not wholeheartedly behind the program, effective action may or may not be taken: the project becomes "an idea of the telephone company" rather than something of the customer's initiative. If the customer is unwilling to devote continued interest to the good-usage theme, bad telephone habits which have been temporarily eliminated will sooner or later reappear.

GOOD-USAGE programs which are designed to correct existing faults have been highly successful.

They involve, obviously, determining the shortcomings of existing practices. This is usually done by observing the manner in which employees handle telephone calls. Another way is to make a series of test calls to selected departments. This is a particularly good way to form a judgment because opportunities to display initiative may be purposely given the employee.

The usual method of introducing ideas for improving telephone practices is to arrange group meetings of all a firm's employees, including its executive management. At these meetings either a representative of the customer or the telephone company representative addresses the group, pointing out common practices which could be improved and stressing desired procedures.

To be effective, such addresses must be made interesting. The use of working telephone equipment to demonstrate the "right way" and the "wrong way" is very helpful. A Bell System film "Telephone Courtesy" has been found to be a fine vehicle for getting across ideas on correct and incorrect usage. Giving voice demonstrations on the mirrophone has been a popular way to portray proper tone. Distribution of appropriate printed matter supplied by the telephone company usually takes place at such meetings.

The telephone representative can give only the original impetus, of course. Once the ball is started rolling, it is up to the customer to keep it rolling. Some firms give all their new employees a brief course on good telephone usage, which is "refreshed" from time to time. Others designate particular employees whose full-time responsibilty is to keep employee interest alive. This they do by such things as distributing booklets, dis-

playing bulletins and posters, and making surveys to determine the quality of telephone contacts.

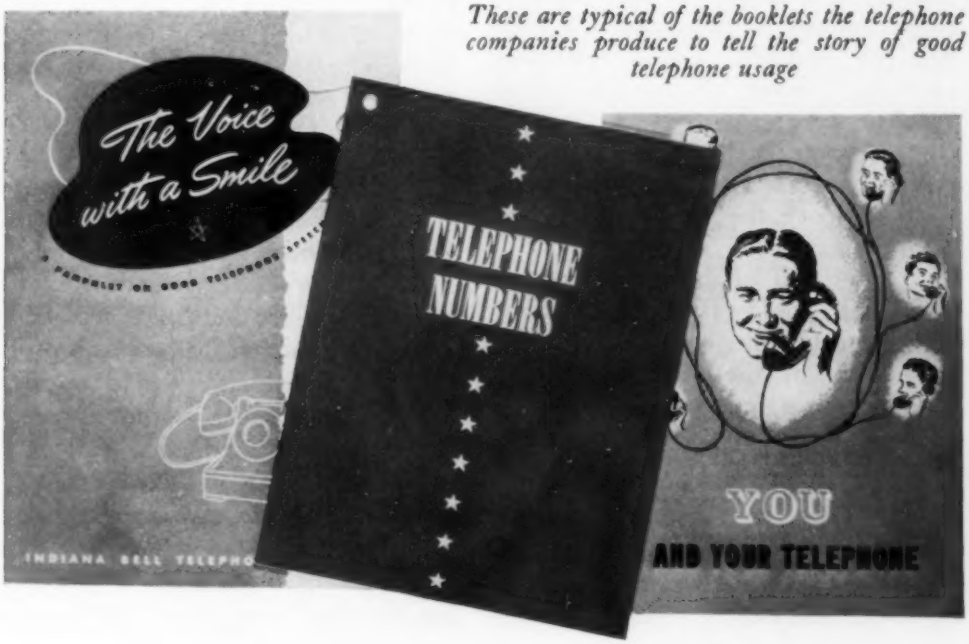
ONE interesting follow-up plan used a firm's public address system. At intervals the sound of a telephone bell was broadcast through its loudspeakers. At the end of the second ring a voice announced, "No that really wasn't your telephone ringing that time. But if it had been, would you have answered it promptly? Our telephone is a production tool. When you delay in answering your telephone, you tie up busy lines. Please answer promptly." The messages were varied to emphasize other points, and the plan proved to be highly effective.

Another plan involved the use of reminder slips originated by switchboard attendants. After all employees had been informed of the plan and its purpose, the attendants would send reminder slips to those employees whose telephone habits had been noted as being below the firm's standard. The reminder would point out the mistakes made and ask for future coöperation.

Illustrative of the material which has been prepared and distributed by both the telephone companies and customers are colorful booklets, blotters, posters, and booklets for frequently-called numbers. Many firms have devoted space in their own magazines to the subject, and have prepared manuals or other instructive material.

A large banking institution has gone to the expense and expended the effort to produce slide films outlining proper telephone procedures.

One of the large automobile manufacturers has recently written all branch distributing and warehousing points, describing a service-improvement job done in Detroit and suggest-



These are typical of the booklets the telephone companies produce to tell the story of good telephone usage

A telephone representative conducts a special class on good telephone usage with a customer's employees—in this instance a selected group from a large air transport line

ing that each branch do something along similar lines.

Business executives are keenly interested in the general program. Recently the Dartnell Corp. of Chicago conducted a survey of 125 business organizations to determine what executives thought about telephone courtesy. Some of the conclusions reached were:

> Almost all the executives interviewed were eager to do something to improve the situation in their organizations.
>
> Over half of the firms surveyed felt they could easily improve their existing telephone practices.
>
> Most of the firms which had launched a good-usage program recognized the importance of "follow-through."

A Worth-while Activity

BECAUSE of the many intangible benefits which customers receive as a result of these good-usage activities, it is difficult to measure accurately their full value. The cordial response of business executives is in itself testimony that the work is worth while. Perhaps typical is the following statement, quoted from a letter signed by the vice president of a large manufacturing concern:

> "We feel confident that this [program] will gain for us and our company a number of valuable friends. . . . Your program seemed to strike a vibrant chord. . . . At some later date we would like this fine program repeated. In the meantime, we would appreciate your keeping us supplied with a reasonable amount of follow-up literature."

Many such letters have been received.

A large railroad which has paid particular attention to the matter during the past few years estimates a

Kind of Business	Speed of Telephone Answer			
	Average Seconds		*% over 30 Seconds*	
	Before Study	After Study	Before Study	After Study
Steel Tank Co.	24.2	14.2	19.6	8.7
Can Manufacturer	18.7	13.3	12.0	10.9
Aircraft Equip. Co.	25.0	12.9	19.8	5.5
Express Co.	20.6	16.0	15.7	10.3
Commercial Airline	19.7	9.5	14.9	3.0
Food Machinery Co.	25.1	17.3	15.5	13.0
Railroad	22.9	15.6	15.7	11.5

95 percent improvement in telephone courtesy and effectiveness.

In Southern California, studies were made at a number of PBX switchboards before and after good-usage programs were conducted, to determine the effect on the speed with which employees answered their telephones. Some of the results are shown in the accompanying table.

Other Activities

In addition to activities with specific customers, much effective work has been done to spread the gospel of good usage among groups.

Luncheon clubs and civic and social organizations have received with enthusiasm telephone company speakers. The film "Telephone Courtesy" is adapted to such gatherings and has been shown many times.

Telephone company representatives have also appeared before conventions of advertising executives, sales managers, office managers, and similar interests.

Some secretarial schools have as a part of their curriculum a course on telephone manners and pleasing procedures. Schools consider lectures on this subject desirable, and telephone representatives have filled such engagements.

In some cities, the extent of the good-usage job has made it desirable to organize especially for it within the Commercial Department.

An example of this is in New York City, where last year seven customer service consultants, as they are called, and their supervisor made up an organization of specialists. These people were selected with particular attention to their public-speaking ability and voice characteristics. A training manual was developed, and each of the consultants received instruction in subjects varying from "How to conduct mirrophone demonstrations" to "Training of selected customer personnel as consultants."

Among other activities, this group was responsible during the year for more than 100 customer surveys and conducted programs attended by about 22,000 people. In addition, individual training was given to many customer employees, who in turn act as consultants within their own companies.

This work of the telephone companies to stimulate good telephone usage

Message to executives. This telephone company representative is addressing a group of advertising men on the importance of good telephone usage

among business customers is a soundly established and continuing activity. For while it is the responsibility of customers—and to their own advantage—to keep alive within their organizations an appreciation of the benefits of good telephone habits, it remains also the concern of the telephone companies as long as poor telephone habits utilize facilities needlessly, slow up service, or otherwise detract from the effectiveness of the telephone as a means for doing business.

The Bell System found out long ago that it isn't enough to build the plant and complete the calls. We must also help customers get the best use and the most satisfaction out of the service.

Athletic, Social, and Cultural Activities Sponsored by Employee Groups Offer Bell System Men and Women Many Opportunities To Cultivate a Variety of Interests

Employees Enjoy more than 70 Out-of-hour Activities

John G. Simmons

THE PHRASE "He flies through the air with the greatest of ease" might refer to a song popular a decade or so ago, or even to an "aerial artist" in a circus; but a certain group of air-minded telephone employees would undoubtedly assume that it was describing the week-end activities of the members of their flying club.

What is this flying club? The answer is twofold: it is a group of forty people meeting every Saturday and Sunday at a local flying field for instruction and practice in flying; and it is also one of the many recreational activities sponsored by and participated in by groups of Bell System employees.

What are these leisure-time recreational activities which arouse the interest of telephone people? Who *are* the interested employees? Why do they like to engage in these activities? How do they become interested? How are the activities organized, and what equipment and facilities are required?

Such questions have been asked many times. They indicate a rather general interest. Hence this endeavor to provide at least some of the answers.

Athletic and Social Activities

A SURVEY made recently in the Bell System showed that there are more than seventy different kinds of recreational activities presently under way among employee groups. The term "recreational" as used here is applied to a wide variety of employee leisure-time interests: athletic, social and cultural. These activities range all the way from vigorous forms such as softball, basketball, and the like to the less strenuous but equally absorbing types such as stamp collecting.

Bowling is found to be a part of the men's and women's program more

Crafts and collections of every sort are found among the hobbies of Bell System people. Here is a corner of a "hobby show"

often than any other activity. Since bowling competition involves team play, it follows that the greatest number of teams take part in this sport. The employees in every company in the System have their bowling teams, and in most instances the teams compete in both departmental and interdepartmental leagues. In some cases company teams participate in industrial bowling leagues and inter-company matches.

Softball has its adherents, not only among the men but among the women as well. Here, too, teams are organized into leagues. Other sports which parallel are basketball and volleyball—although participation in the latter has been limited, up to now at least, to the distaff side. Perhaps it isn't surprising that most of the participants in these three sports just happen to be the younger telephone people.

Sports activities which seem to appeal to telephone men rather than to telephone women are handball, badminton, squash, fishing, flying, horseshoe pitching, rifle club and shooting activities, and sailing.

There are, however, several programs in which men and women jointly take an active part: golf, horseback riding, bicycling, roller skating, archery, swimming, table tennis, skiing, tobogganing, and ice skating.

WHILE telephone company bridge leagues and tournament play have not as yet inspired a Webster bridge cartoon, they have provided interesting post-mortems of a non-deadly variety. Other table games which collectively vie with bridge in the number of ardent adherents include checkers, chess, skat, and pinochle. Some of these activities are formal-

ized through clubs, as in the case of chess, and tournament play is a regular feature of the program. Also, arrangements are made to provide courses of instruction for both individuals and groups, and members and non-members of the groups engage in informal play during noon hours.

Dances, minstrel shows, banquets, theatre parties, hay rides, sleigh rides, hikes, and picnics have the enthusiastic support of telephone people in many places. Sponsored by many different groups, large and small, employee parties and dances range from informal to formal and in many cases constitute the highlights of the telephone social "season." In some locations groups of employees assemble at regular intervals to listen to recorded music or to participate in "sings."

Outstanding in the social field is the activity of the Telephone Pioneers of America. Although this organization of long-service people in the telephone industry now has many interests beyond the merely social, its many hundreds of dinners and parties in all parts of the country are eagerly-awaited and attended by members and guests.

And possibly coming under the head of "social" activities, and surely deserving of mention here, are the many generous instances of toys, dolls, clothing, and other gifts collected by employees as the Christmas season approaches and distributed to families and individuals who might otherwise lack entirely the presents which are traditionally the manifestation of the Yuletide spirit.

Cultural Activities

THE TERM "cultural" is used in a broad sense to include activities having to do with the arts and crafts and with many "marginal" interests which make for a more fully rounded life and more satisfying self expression. In this group are the choral societies and glee clubs, orchestras, and music and dramatic clubs. These organiza-

Choral societies offer training, practice, and pleasant social contacts

Dressmaking classes are popular

tions, many of which make public appearances, offer training and practice as well as pleasant social contacts. There have been interesting instances of inter-company group performances in this field, and also in connection with photographic exhibits.

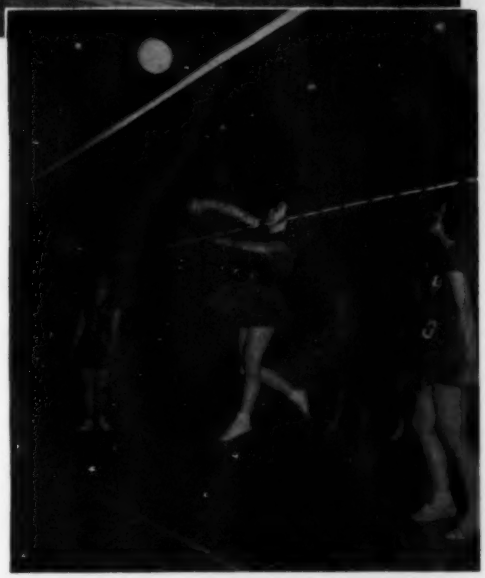
Under this general heading also come painting and sketching, poster making, ceramics, sewing, tailoring, knitting, and millinery designing. Many of these interests are "productive" as well as cultural, and the resultant products have practical uses, especially those which can be used in the home or can be worn.

Educational activities include public speaking courses, forums for discussion of current events, book clubs, study clubs, movie clubs, and language classes.

During the war, Bell System garden groups promoted victory vegetable gardens. Today, although the emphasis has shifted to a balance between flowers and vegetables, the knacks learned in wartime have not been forgotten. Gardening naturally suggests harvest and flower shows, at which employees may exhibit the fruits of their toils.

Mention of the various hobby enterprises has been reserved until this point in order to give special emphasis to their value to Bell system men and women. Whether the interest be still or motion picture photography, stamp or coin collecting, amateur radio, furniture building, antique collecting, rug making, or whatever else a person desires to engage in, hobbies are contributing in no small measure to the out-of-hour enjoyment of Bell System people. And they are doing more than just that—they are aiding active employees to gain interests and skills which will be carried over into retirement. Thus they will help bridge the gap between the telephone job and the days of leisure which are ahead and will, in some cases, prove profitable.

The idea of taking up a hobby is one which results most often from "exposure" to the productions or collections of those who are already interested. So the holding of hobby shows not only provides exihibts of absorbing interest but proves to be a means of bringing many non-hobbyists into contact with the results of the activity. The Telephone Pioneers organization is especially active in this field and in some cases is extending



Telephone men and women participate in various athletic activities throughout the year. The enjoyment of bowling and volley ball is not dependent on the weather; softball recruits plenty of material for the summer league games

Art study groups provide opportunity for self development

the hobby influence by setting up traveling hobby exhibits and by making available "hobby counselors."

Who are the Interested Employees?

EMPLOYEES who feel the desire for informal activity not directly related to their daily work and who find an answer to this need in out-of-hour recreational activities are everywhere in the telephone organization. If you examine a list of exhibitors in a harvest or hobby show, or the membership list in a camera club, glee club, bowling league, or almost any other recreational program, you will find the names of people in practically all the occupations which together form the team that is the Bell System.

It is entirely normal for people to want to express themselves through activities of the kind such recreational programs provide. Since employees are with their fellow-employees such a large part of their waking hours, it is a natural consequence that these fellow-workers are the ones with whom they join in at least a part of their off-hour recreational activities. What do employees gain from these activities? Their answers to this question would include such things as better health, added knowledge, broader outlook, increased acquaintance, happier frame of mind, and, in general, richer lives.

How the Activities Become Organized

THE PUBLICITY given employee recreational programs varies in each company. Information concerning the purposes of the clubs, associations, and other groups administering the activities is contained in bulletin board posters, questionaires circulated for the purpose of developing interest, mimeographed announcements—either periodical or occasional; in club, association, or group publications, and articles in company magazines. One of the most effective sources of publicity is the verbal boosting given by the telephone people who take an active part in the activities. And of course "exposure"

of non-participants to any of these activities may gain adherents.

In general, two ways are open in the handling of employee recreational work. One is to have a company recreational staff which directs all activities, possibly using employees on committees under staff supervision. This plan is simple and direct in operation, but it is restricted in the spread of interest and participation by employees.

The other plan, and the one used generally throughout the Bell System, is to invest the employees with the responsibility for originating and promoting the various activities, heading committees, and supervising operation. In this type of organization there is also a recreational staff, but it remains in the background, acting in an advisory capacity and assisting with detail work. This latter method of operation has proved most satisfactory; it creates much more interest, results in many more employees being engaged in the activities, and gives employees authority and prestige in the recreational program.

BECAUSE there are so many different recreational activities, and because interests of employees vary considerably among areas and companies, it follows that administration of the activities does not adhere to any set pattern. In most of the operating companies, the development of the recreational program generally depends upon the sizes and types and locations of the various employee groups. The programs are administered in a number of different ways, to suit the needs of the individual case, with such coöperation by the company as is indicated to meet the employees' interests and desires for recreational activities.

Where facilities are available, the companies in general provide space, heat, and light for meetings, out-of-hour classes, and social gatherings.

Public speaking classes provide many telephone employees with opportunity to learn about the techniques of self expression

Chess may relax the body but it stimulates mental concentration

In a few cases the companies have recreational facilities which are available for use by the active groups; but for the most part private, commercial, and public facilities are used for athletic activities, and where charges are made for such facilities the cost is paid by the employees participating.

In locations where large numbers of employees are concentrated, such as in the case of a manufacturing plant or general headquarters staff organization, there are well-developed and extensive recreational programs administered by organized employee clubs or other such groups. Following is a description of one employee club which is typical of such an arrangement:

"This club administers the entire social and recreational program at the plant and provides those seeking further education with opportunities in that direction. All employees at the plant are automatically members of the club, but the privilege of voting and holding office is restricted to those who have been in continuous service of the Company for at least one year.

"Administrative control is vested in a board of directors and executive officers, the latter being responsible to the board of directors for the conduct of the club's business. Directors are elected at annual elections and represent various units of the plant on a proportional basis. Each director is assigned certain responsibilities by the president of the club and appoints committee chairmen who are functional for his several activities. All the executive officers except the executive vice-president serve for a term of one year. The executive vice-president is appointed by the board of directors and serves until replaced. He and his staff of four supervisors manage the affairs of the club on a full-time basis.

Many of the employee recreational groups in the Bell System furnish information about their organization and activities in booklets such as these

"Club activities are supported through fees from members who participate in certain activities, the sale of tickets to social and athletic affairs, plus any profits which may accrue from the club stores. The company provides office staff personnel, playground facilities and rooms for recreational purposes, and makes contributions to defray the expense of approved activities which cannot be cared for with the income anticipated from the sources mentioned."

THIS ACCOUNT has described rather briefly the out-of-hour recreational activities in which telephone employees participate. These activities are many and varied, and appeal to women and men of all age groups. The old saying that all work and no play makes Jack a dull boy has been interpreted by telephone employees to mean that a change of pace from work to play provides a balance and a perspective which makes all of life more enjoyable, more interesting.

The Biggest Vehicular Fleet in the World Includes Not Only Various Sizes of Trucks but Many Kinds of Apparatus Which Contribute to Bell System Efficiency

Keeping Our Automotive Equipment Modern

Temple C. Smith

LIKE A GIANT BEETLE, a train of mammoth machinery crawls across a field on the route between Baltimore and Washington. In its wake it leaves a narrow slot in the ground, from 30 to 60 inches deep, with a thread of silver gray at the bottom.

The time is early 1947. The event is the first appearance in the field of the C–60 cable plow—the largest outside plant tool ever developed in the Bell System—as it splits the ground and deposits a run of coaxial cable safely in mother earth.

The new plow is really huge: 32 feet long, 12 feet high, nine feet wide. It weighs about 23 tons exclusive of its 4-ton control trailer, and is hauled along by 20-ton caterpillar tractors with a pull of about 15 tons apiece. At that, this behemoth's new design gives it an easier response to tractive effort than lighter plows of earlier design.

The train also includes a cable reel trailer, other tractors for changing reels, and the indispensible control trailer.

The control trailer follows immediately behind the plow. From it are operated by remote control the hydraulic rams which move the plow share up and down to produce the desired depth of cut and which also swing it to change the angle of the cutting edge to meet different ground conditions. This also permits rooting out the slot and placing the cable in it at uniform depth even over undulating ground—an important new feature, first introduced in this plow.

Hydraulic power with a force of upwards of 50 tons is also available for rooting out boulders and stumps which obstruct the route. In this fashion the operator can "chew" through a particularly tough stretch of terrain in a series of sweeps of the plow share. Ten-ton pebbles have been rooted out of the way by C–60.

Above: C-60 plow burying coaxial cable three feet deep. Left: Plow in traveling position, with share out of ground at rear

The new C-60 cable-laying plow, with its necessary adjuncts of tractors, control trailer, and cable trailer and cable, is an impressive sight as it cuts its way through the countryside

An important feature of the hydraulic control is a relief valve which "blows" like a circuit-breaker when the blade comes up against an immovable object, such as a ledge. This prevents damage to the plow or tractors from too much strain. The first pass with the plow explores the unknown subsoil condition and locates obstructions, which are removed before the cable is fed into the ground during the second pass.

The final trailer-section of the plow train carries a reel of cable, which is fed through the plowshare into the trench. The average amount of cable carried on one of these reels is approximately 1,000 feet—a trailer-cargo of about 8,500 pounds.

The plow requires relatively little turn-around space and its excellent axle clearance, provided by two 21:00 × 28 rear wheels, practically eliminates trouble from boulders, accumulations of sod, corn stalks, and brush lodging under the plow.

Make-up of the Fleet

THE C–60 PLOW—"Mickey Mouse" to its intimates—is one of the newest additions to the Bell System's automotive fleet of more than 30,000 vehicles and items of equipment—the largest fleet of trucks and cars in the world. Included in the roster are not only trucks and passenger cars but trailers, various kinds of wire plows, pole-hole diggers, pole derricks, platform ladders, tractors, bulldozers, trenching machines, and other miscellaneous types of vehicles,

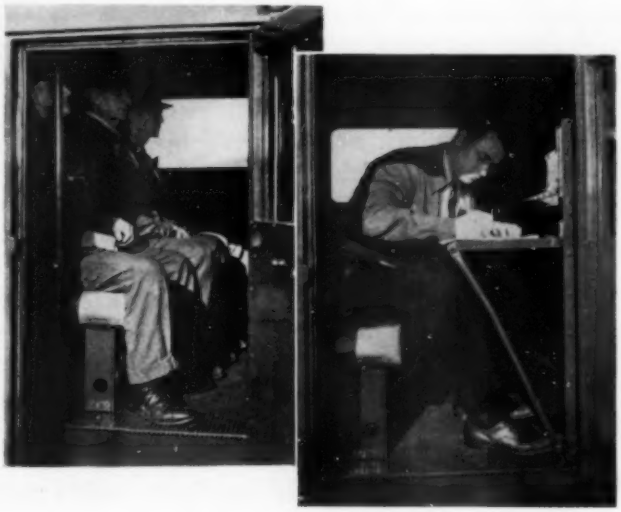
A Bell System construction truck with the newly designed crew compartment behind the cab

all of which have an important part in providing telephone service.

The fleet had its beginnings nearly 40 years ago, when a few vehicles were put in service in competition with horse-drawn wagons. It has grown steadily in size and efficiency since then, and today the Bell System has no fewer than 16 types of trucks, each designed for a specific task.

More than 60 percent of the over 30,000 vehicles are half-ton trucks, of which the installation type is representative. More than a fifth of the total are passenger cars. The rest range in size from three-quarters of a ton up to trucks of 32,000-pound gross vehicle weight, and correspondingly large tractor trailers.

Not only the number of vehicles but the specialized nature of much telephone work make it natural that Bell System engineers should concern themselves with adapting and improving the various units: creating better tools to do a better job. Several new designs in the automotive field have been developed and adopted recently —some of which are described here. They are doubly effective because they are in time to be included in the large program of replacement of motor vehicles which have served valiantly through the war—thanks to special maintenance practices—but have earned their retirement. Gradually the new fleet will assume an even higher level of appearance, usefulness, performance.



Two views of the crew compartment. It provides ample room (left) for men wearing heavy clothing in winter, and (right) carries a collapsible table which is convenient for making out reports and other uses

The Engineers' Objectives

NEARLY ALL of the vehicles, except the passenger cars, are equipped with special bodies and auxiliary equipment which adapt them to special needs. In designing these vehicles and the apparatus used with them, the engineers give particular attention to these principal objectives:

1. To make every detail of the finished unit as convenient as possible for the men who will use it.
2. To make each unit do its job as efficiently as possible.
3. To incorporate in the design as many of the details from commercially available parts, or parts already developed for other units, as practicable.
4. To build safety into the design and into all uses of the equipment.
5. To meet all legal and regulatory requirements.
6. To provide a unit which will perform reliably with a minimum of time out of service for repairs.
7. To design a unit so it can be manufactured by existing supply sources without using special materials or developing new or special manufacturing equipment.
8. To design it to operate at a reasonable cost.

Comfort En Route

OCCASIONALLY a new service arises which cannot be cared for adequately by an existing unit of equipment.

The crew compartment for construction trucks is one example. Two years ago it was learned that five- and six-man cabs would no longer

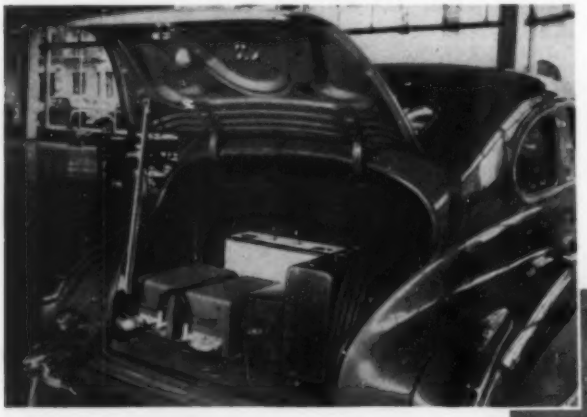
Interior arrangements in the recently developed installation truck body. With certain modification, this same body is used for a repeater-station service truck

be commercially available in sufficient quantities to meet the System's large requirements. Besides being extremely difficult to obtain, many of them were too cramped, lacked desirable features, and in some instances cost nearly as much as the entire body.

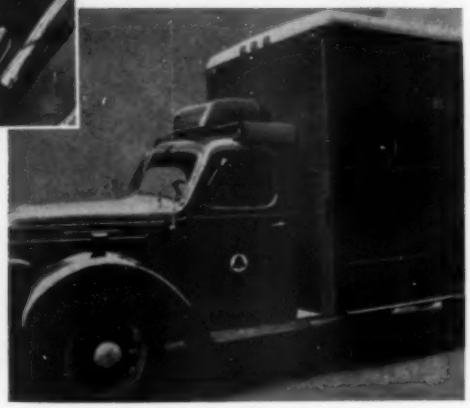
The engineers went to work, and came up with a three-man compartment located just behind the regular two- or three-man cab. The compartment has its own doors and windows and is connected with the front cab by a bellows, with a large window opening between the two seating spaces.

Many improvements were made with the comfort of the truck's crew in mind. The new compartment is insulated against the heat of summer and the cold of winter and can be uniformly heated when necessary. It is equipped with foam latex cushions, a collapsible desk or lunch table, and spaces for storage of lunch boxes. It has several advantages over the former cab design, including doors 60 inches high instead of the standard 45 inches. When manufactured in quantity, the compartment compares favorably in cost with its predecessors.

IN DEVELOPING a complete construction truck body, engineers first determine the maximum numbers and types of materials and tools to be carried. Most of the telephone construction trucks today are equipped to carry about 200 kinds and sizes of materials and 70 kinds of tools. These must be located according to their use, and conveniently accessible.



Below: New design of radio telephone cabinet for mounting on a truck cab



Above: The two mobile telephone units mounted at the left in the baggage compartment of a passenger automobile do not block access to the spare tire, and leave space for luggage

The new aluminum-alloy truck platform ladder is now being produced in quantity. The large picture illustrates how it may be extended over a parked car or a roadside ditch, while the insert shows the ladder lowered and made secure for traveling

Sometimes truck bodies designed for one task are only slightly modified for another particular use. Recently there arose a need for a half-ton or three-quarter-ton truck specially equipped for servicing isolated, unattended telephone repeater stations. The engineers started with the body shell of an installation truck, omitted the ladder brackets, and added two doors on the left side. While the outside appearance of the maintenance truck remained virtually the same as the installation truck, the interior space was rearranged to carry a large supply of water for replenishing telephone storage batteries, and to provide space for delicate instruments, including vacuum tubes.

Radio Enters the Scene

THROUGHOUT the entire series of 16 telephone truck bodies, the same materials and design methods are used as far as practicable. All truck doors, for example, are made alike, with locks identical except for keying. All body corners and frames are also of similar design. This eases the material stock situation with the manufacturers and keeps to a minimum their required number of tools, jigs, dies and patterns.

Body design from now on must take into consideration additional space for telephone equipment. The rather sudden advent of mobile telephone service just a year ago has posed difficult problems for the automotive equipment designers because of lack of adequate space for the new apparatus. In some instances, the radio equipment is installed in weather-proof boxes atop the truck driver's cab; in passenger cars, it is usually located in the trunk compartment.

In addition to mobile telephone equipment (which is not yet universal

Tip platform trailer. As machinery is run up the skid to platform level the front end drops slowly forward to the horizontal, where it is locked for travel

in the fleet), Bell System trucks carry a variety of special equipment which requires individual adaptations and designing for each type.

A new series of winches, for installation on telephone trucks, has been developed in several sizes for various applications, such as with derricks for handling poles and light earth borers, and for pulling cable. Automatic brakes are incorporated in all, and automatic winch-rope winders are being tested for incorporation as standard parts.

The entire line of telephone pole derricks has undergone recent improvement. A survey has indicated a preference for the "T-type" of derrick, which has a telescoping boom adjustable both in length and in overhang.

One of the most recent additions to the Bell System's fleet is a new aluminum platform ladder for trucks. Like its wooden predecessor, it is completely out of the way while in traveling position, but it is taller and more rugged and has an adjustable overhang. A lineman can even inspect an aerial cable with the ladder extending over a car parked at the curb, or over a narrow ditch at the side of the road.

Pole, cable reel, and splicer's trailers for highway use have changed in recent years only by improving details. But a new kind of trailer, the tip-platform type, is now being developed for carrying heavy equipment, such as trenching machines. The platform is hinged so it can be lowered at the rear to become a skid. The machinery is run up to platform level, the front end becomes heavy,

Large pneumatic tires fore and aft replace the usual caterpillar tracks on this winch-loading cable-reel trailer

For cross-country work where use of the plow is not feasible, the trenching machine shown above will lay cable to a depth of 42 inches. The lighter machine at the left is particularly useful for trenching in cities, where sidewalks and service pipes prohibit use of plows

and, in settling to the horizontal, raises the skids to platform level. Hydraulic shock absorbers prevent a quick drop in either direction and there is, of course, a substantial lock to hold the platform horizontal when traveling.

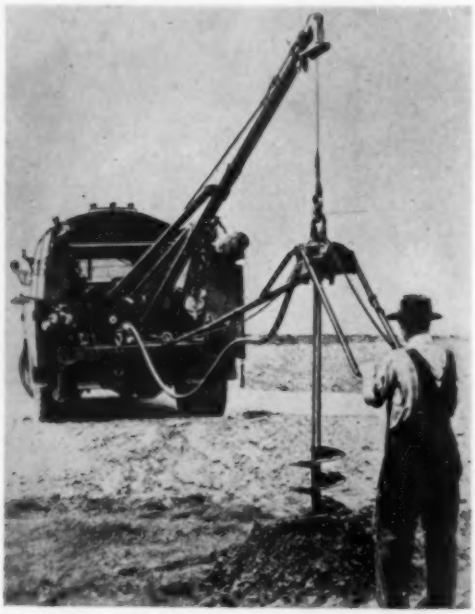
Among off-the-road trailers, the winch-loading cable reel trailer has been improved by substituting large tandem pneumatic tires for the usual caterpillar tracks. This design results in less trouble from accumulating mud and from freezing up in winter, and enables the trailer to move faster on the highways. This pneumatic-tire bogey also costs less to build and maintain and it lasts longer than its predecessor.

A larger diesel-powered tractor has recently become available, providing more traction and more pulling power than previous models. Its new hydraulic-torque-converter drive is automatic, eliminating jerky starts and permitting synchronization with other tractors in a plow train. The work of adapting these new type tractors to the plow train is now under way.

Trenchers, Augers, and Rodders

IN THE final development stages are two new types of trenching machines for burying cable, which are expected to meet telephone construction requirements. One type will be used to place cable at relatively shallow depths in order to avoid gas and water pipes in urban areas, handle a minimum amount of earth in excavating, and lay the cable so it will be protected by the sidewalk. Light weight and low cost of the machine for this work are more important than the speed of operation.

The second type of trenching machine will be used for cross-country work. It will be faster and will lay the cable as it digs—a procedure not



This light portable auger, suspended from the truck pole derrick and operated through a flexible shaft from its own small engine, is one of several types of earth-boring machines recently developed

feasible in cities because of crosswalks and streets.

Relatively new in the Bell System's group of earth-boring machines is a new portable pole-hole digger. When operated on a truck, the unit consists of an earth auger driven by a small air-cooled gasoline engine through a flexible shaft and raised and lowered by the truck winch and derrick. Due to its lightness and flexibility of operating positions, this digger can be used on light trucks, being adapted to any truck equipped with winch and derrick but best suited to operating with the T-type derrick. It can be changed from one truck to another in a few minutes.

Heavier earth-borers are used where very difficult soil conditions make it impracticable to use the lighter digger. For operation in places inaccessible to trucks, such as swamps, medium- and heavy-duty borers have been mounted on caterpillar tractors. However, the lack of traveling speed and the fact that usually the caterpillars are not permitted on pavements limit their use in pole setting to large jobs of continuous new pole lines.

Telephone cables beneath city streets are generally run between man-holes through ducts made usually of vitrified clay, sometimes of other materials. So much underground cable is now being placed that the application of mechanical energy to the jobs of cleaning and rodding ducts takes on added importance. Two ways to apply power have been developed.

With one method, four-foot metal rods are joined and pushed forward

through the ducts by hand at the same time that they receive a twisting motion from a small engine. When pushed direct, they can be moved ahead only 300 to 400 feet; with the added twisting action imparted by the motor, that distance can be increased by from 50 to 100 percent.

The other method employs a truck-mounted machine which thrusts and twists a continuous flexible spring-steel rod into the duct. The ratio between thrusting and twisting can be varied to meet different conditions; the machine has been found to be effective up to distances of 1000 feet; it will withdraw the rod from the duct as well as drive it forward.

THE BELL SYSTEM'S present great plant construction program obviously puts special emphasis on all mechanical devices which will save time and promote efficiency. To these, the System's fleet of motor vehicles and construction apparatus contributes immeasurably. The engineers who design, adapt, test, refine, and perfect the several types of units here described thus have no small share in achieving the nation-wide objective of providing service for all those who are waiting for telephones and of expanding the System's facilities to meet present and anticipate future requirements.

THE HUMAN BODY is supposed to change every seven years. But while at the end of that time it is practically a new body, there was no particular day on which it became a new model. Telephone plant is renewed by a similar evolutionary process. In the average household where a telephone has been for ten years it provides a better service from what it did to begin with, but at no time was the whole connection between the telephone and the central office taken out and a new one put in. At one time cable may have been substituted for open wire for part of the distance. At another time the instrument may have been changed. At another time the transmission characteristics of the line changed. At another the switchboard changed to dial. When all this has been done perhaps nothing but the wires into the house itself remain the same. Yet at no time was the service interrupted. This process means that improved apparatus must be so designed as to work with all existing apparatus and be introduced into the plant piecemeal so that improvement is an evolutionary process.

From "The Bell Telephone System," by Arthur W. Page, Vice President, A. T. & T. Co. Harper & Brothers, publishers, 1941.

Mark Twain and the Telephone

Publication during the past year of two collections of Mark Twain's writings * serves as a reminder that he was an early user of the telephone—not only as a means of communication but as source material for his ready pen. The files of the American Telephone Historical Library yield the material on which the following account is based. THE EDITORS

IN THE American Telephone Historical Library, on the twenty-sixth floor of the A. T. & T. building in New York City, is filed an original copy of *The Hartford Telephone Directory,* published under date of June 1, 1879, by The District Telephone and Automatic Signal Company, whose office was at 240 Main Street, Hartford, Conn. Among the names listed as subscribers for residence telephones is the following entry:

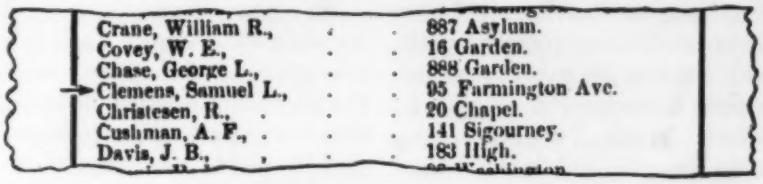
Clemens, Samuel L., 95 Farmington Ave.

The entry throws little light on the question of who was the first telephone humorist, which will probably never be settled—for telephone jokes are almost as old as the telephone itself. But it does present at least presumptive evidence that Mark Twain was among the first American humorists who took the telephone seriously enough to pay the required rental for the use of the newly introduced device. The annual rental, by the way, according to another page of the Directory, was "$22.00 a year in advance"—a sum which, considering what you got for it, was no laughing matter back in 1879, even for a humorist.

That Samuel L. Clemens was a pioneer among humorists in using the telephone is thus established. There is no evidence, moreover, that he was antedated on the roster of American telephone subscribers by others in the field of literature whose names were equally well known. He seems to have had a penchant for experimenting with new inventions. It is well established that he was among the first of American authors to turn out his manuscript on a typewriter. So, also, was he a trail blazer in the matter of becoming a addict to the telephone. Which does not at all mean that he did not see its humorous possibilities.

ANOTHER interesting item in the American Telephone Historical Library is a manuscript bearing the title *Recollections of the First Telephone Installations in Hartford, Connecticut, 1877–78–79,* by John Malcolm Knox. In it Mr. Knox recounts that "a line was built from the *Hartford Courant* establishment to the homes of two of its editors and proprietors—General Joseph R. Hawley and Stephen Hubbard—and thence to Mark Twain's residence. I was sent out to assist two linemen.

* MARK TWAIN: BUSINESSMAN; edited by Samuel Charles Webster; Little, Brown & Co., Boston. THE PORTABLE MARK TWAIN; edited by Bernard de Voto; Viking Press, New York.



Crane, William R.,	887 Asylum.
Covey, W. E.,	16 Garden.
Chase, George L.,	888 Garden.
Clemens, Samuel L.,	95 Farmington Ave.
Christesen, R.,	20 Chapel.
Cushman, A. F.,	141 Sigourney.
Davis, J. B.,	183 High.

Reproduction of part of a column from the Hartford telephone directory issued on June 1, 1879. Subscribers were called by name then, and not by number

They were installing the telephone in Hawley's house when I came on the scene. On our way to Twain's I can remember going through skylights, clambering over roofs, and climbing trees, poles being used only when necessary. There was some confusion when we attempted to install the telephone in his home."

The author here adds, parenthetically, that "the confusing thing about a humorist is that one never knows when he is fooling." He continues:

"While the work was in progress, he strode about the room and uttered something like the following—

" 'The voice carries entirely too far as it is. If Bell had invented a muffler or gag he would have done a real service.'

" 'What's the idea of attaching a long-distance feature to anybody's voice? He's crazy!'

" 'Put the thing near the window, so I can get rid of it easily.'

" 'Here we have been hollering "Shut up!" to our neighbors for centuries, and now you fellows come along and seek to complicate matters.'

" 'I must be an easy mark to exchange dollars for dubiousness.' "

This report of the humorist's offhand remarks sounds authoritative—that alliterative phrase as to "dollars for dubiousness" smacks of the real Mark Twain. One wonders whether the two telephone installers and their assistant really appreciated the fact that they were getting, for nothing, what publishers were falling over themselves to pay for in good coin of the realm.

PERHAPS one of the earliest of published humorous articles about the habits of telephone users, "A Telephonic Conversation," was written by Mark Twain and published in the *Atlantic Monthly* for June, 1880—just a year after the name of Samuel L. Clemens appeared in the Hartford Telephone Directory. Since the charm of Mark Twain's description of this one-sided telephone conversation lies in large measure in the length of time the exchange of small-talk continued, it is for that very reason unprofitable to quote it here. But Mark Twain had made the profitable discovery that there is something essentially intriguing about a conversation of which the listener is able to hear only one side.

"*A Connecticut Yankee*"

ONE OF THE best known of Mark Twain's full-length books was "A Connecticut Yankee in King Arthur's Court." Although it was first published in 1889, it bears internal evidence that the author may have begun

work on it ten years earlier. If the book may properly be associated with a date not longer than three years after the first transmission of speech by telephone, Mark Twain's references in it to things telephonic become the more remarkable.

The humor of the book, it will be recalled, lies in the fact that when the Connecticut Yankee was miraculously transported back into the court at Camelot, he took his modern civilization with him—including the telephone. Thus, in Chapter X, the fictitious chronicle declares:

> We had another large departure on hand, too. This was a telegraph and a telephone; our first venture in this line. These wires were for private service only, as yet, and must be kept private until a riper day should come. We had a gang of men on the road, working mainly at night. They were stringing ground wires; we were afraid to put up poles, for they would attract too much inquiry. Ground-wires were good enough, for they were protected by an insulation of my own invention which was perfect.*

By a sweep of his facile pen, Mark Twain had thus easily solved a problem which it took Bell System engineers many years to answer. Small wonder that, by Chapter XXLV, the Yankee was able to put through a long distance call, and to comment on it thus.

> It sounded good! In this atmosphere of telephones and lightning communications with distant regions, I was breathing the breath of life again after long suffocation. I realized, then, what a creepy, dull, inanimate horror this land had been to me all these years, and how I had been in such a stifled condition of mind as to have grown used to it almost beyond the power to notice it.

* By courtesy of Harper Bros., publishers.

Romance there is, too, in Mark Twain's story of the Yankee's strange adventures. His chance meeting with the Demoiselle Alisande la Carteloise, whom the hero grew to know so well that he called her "Sandy" for short, are duly recounted—including the fact that they eventually fell in love and were married. The union was blessed with a small daughter named —well, as to the name, let us refer to the text itself:

> In my dreams, along at first, I still wandered thirteen centuries away, and my unsatisfied spirit went calling and harking all up and down the unreplying vacancies of a vanished world. Many a time Sandy heard that imploring cry come from my lips in my sleep. With a grand magnanimity she saddled that cry of mine upon our child, conceiving it to be the name of some lost darling of mine. It touched me to tears, and it also nearly knocked me off my feet, too, when she smiled up in my face for an earned reward, and played her quaint and pretty surprise upon me:
>
> "The name of one who was dear to thee is here preserved, here made holy, and the music of it will abide always in your ears. Now thou'lt kiss me, as knowing the name I have given the child."
>
> But I didn't know, all the same. I hadn't an idea in the world; but it would have been cruel to confess it and spoil her pretty game; so I never let on, but said:
>
> "Yes, I know, sweetheart—how dear and good you are, too! But I want to hear these lips of yours, which are also mine, utter it first—then its music will be perfect."
>
> Pleased to the marrow, she murmured:
>
> "HELLO-CENTRAL!"
>
> I didn't laugh—I am always thankful for that—but the strain ruptured every cartilage in me, and for weeks afterward I could hear my bones clack when I walked. She never found out her mis-

take. The first time she heard that form of salute used at the telephone she was surprised, and not pleased; but I told her that I had given order for it; that henceforth and forever the telephone must always be invoked with that reverent formality, in perpetual honor and remembrance of my lost friend and her small namesake. This was not true. But it answered.

A Telephone Romance

EVEN GREATER distinction awaited the telephone at the hands of the imaginative Mark Twain. In one of his stories, less well known than many but written with that tongue-in-cheek seriousness that was characteristic of some of the best pieces of writing he did, he made the telephone the central figure of the plot—and plot there was!

The tale solemnly parodied the rather saccharine romances of the period. It was originally published in a volume of stories which took its name from the first of the series, *The Stolen White Elephant,* and appeared in 1894. The name of the tale was in keeping with the manner in which it was told. It was "The Loves of Alonzo Fitz Clarence and Rosannah Ethelton."

If the story had a hero, that hero was distinctly the telephone. It was by telephone that Alonzo, in Eastport, Maine, and Rosannah, in San Francisco, were formally introduced; by telephone that their courtship was conducted; by telephone that, across the expanse of a continent, they plighted their troth, whispering soft nothings into each other's ears, as young people in love are wont to do, even without benefit of Bell's invention. And it was by telephone that the villain sought to see that the course of true love did not run smooth.

Rosannah, in fact, fled to Honolulu, in the hope that a change of scene might serve somewhat to assuage the wounds which her spirit had suffered. It all looked pretty hopeless, though, until—but the telephone came to the rescue, and the happy lovers were reunited—and were married by long distance, which fortunate outcome of the tale is attested by purported copies of articles in the Honolulu and New York papers, giving the details of the two widely separated ceremonies.

From all of which it would appear that Mark Twain was something of a prophet, as well as a spinner of entertaining tales. It was not until a score of years after the publication of this romance of a transcontinental courtship that the first New York-San Francisco telephone line was built. And as for the New York-Hawaii conversation—that must have seemed to his readers the very acme of ridiculousness, as they turned Mark Twain's pages back in 1894. But on December 23, 1931, radio telephone service was opened to the public between the United States and Hawaii.

Crossed Wireless

(From the New York *Sun*. Reprinted by permission.)

LONDON, March 27, 1947 (A.P.).—The day may be near, a leading psychic researcher said today, when you can pick up a telephone and call the dead in the spirit world.

The spirits of Alexander Graham Bell and Guglielmo Marconi have been telling him how, said John J. Williamson, founder and past president of the Society of Metaphysicians, Ltd.

Williamson, who gets his information through living mediums now, said Bell and Marconi seem tremendously excited about the idea and have poured across some 100,000 words of technical data. They first told him and his research associates to use atom-smashing machinery for mechanical communication with the other world, he said, but the cost seemed prohibitive. A cyclotron, even second hand, costs many, many thousand of pounds.

So Williamson began research at the society's research center, a big, hotel-like building in Hastings, Sussex, and developed what he called "far simpler" mechanical methods.

"If we can succeed in perfecting the simpler methods," he said, "there is no reason why any one cannot have a 'spirit telephone' costing no more than five pounds ($20)." That, said Williamson, would revolutionize the seance.

His news, reported in Society literature, caused wide comment among Britain's spiritualists who, according to psychic societies, number about 30 percent of the whole population. A good many agreed with Williamson's thesis that human mediums can't really be depended upon. Most of them unintentionally garble messages from the other world, the spiritualists say.

Williamson's research is backed by the Society, which has membership in many walks of life.

(From "Exploring Life," the Autobiography of Thomas A. Watson. D. Appleton, 1926.)

ONE DAY [in 1876] Mr. Hubbard received a letter from a man who wrote that he could put him on the track of a secret that would enable us to talk any distance without a wire. This interested Mr. Hubbard and he made an appointment for the man to meet me at the laboratory.

At the appointed time a stout, unkempt man made his appearance. He glanced at the telephones lying around the benches but didn't take the least interest in them. He told me the telephone was already a back number and if we would hire him he would show us how to telephone any distance without apparatus or wires. He looked as sane as most of the inventors I had worked with and I became interested.

When I asked him what experiments he had made, he told me in a matter-of-fact tone that two prominent New York men, whose names he knew but whom he had never seen, had managed surreptitiously to get his brain so connected with their circuit that they could talk with him at any hour of the day or night wherever he was and make all sorts of fiendish suggestions—even of murder. He didn't know just how they did it but their whole apparatus was inside his head and if I wanted to find out their secret I must take off the top of his skull and study the mechanism at work. For fifteen dollars a week, he said he would place himself entirely at my service to do whatever I pleased with him.

Long before he finished his tale, I knew I was dealing with a crazy man. I didn't dare to turn down his proposition too abruptly for fear he might go on a rampage in that lonely attic so I excused myself from starting to dissect him at once on the ground of a pressing engagement and he went away promising to come again the next day. He didn't come and the next time I heard of him he was in an asylum.

Twenty-five Years Ago in the

BELL TELEPHONE QUARTERLY

Items from Volume I, Number 2, July 1922

Sleet Storms

THE RESTORATION of the Bell telephone service after the several storms of last winter was in each case effected with reasonable promptness. The fine spirit of the employees was everywhere evinced and some idea of the quantity of materials which the Western Electric Company was called upon to deliver this winter on emergency shipments may be had by reference to the following list of a few principal items ordered following the storms in New England in November, and in Michigan and Wisconsin in February:

10,000 poles
20,000 crossarms
42,000,000 feet of bare copper wire
8,000,000 feet of covered wire
420,000 glass insulators

The assembly and shipment of these major items together with much miscellaneous material was entirely completed in nine days in each case, more than 50 percent. of the whole being shipped in the first three days. . . .

Of the total storm destruction mentioned, the New England Bell Telephone Companies suffered to the extent of more than one and a half millions of dollars. The damage to the Long Lines Department of the American Telephone and Telegraph Company was nearly one million dollars. The damages to the Wisconsin Telephone Company and Michigan State Telephone Company were approximately two millions of dollars. The Northwestern Bell Telephone Company had over nine hundred thousand dollars of plant destroyed, and The Pacific Telephone and Telegraph Company about six hundred thousand dollars. Not a single Bell Telephone Company in the country escaped. This storm damage is recognized as a part of the cost of furnishing telephone service. Some years it is heavier than others, but it is always a factor.

—From an article by Allen B. Crunden, then general supervisor of accounting methods, American Telephone & Telegraph Company. He subsequently became assistant comptroller, and retired in 1943.

Experimental Broadcasting Station

OUR NEW broadcasting station at No. 24 Walker Street, New York City, is completed and ready for service. The Department of Commerce has refused us a special wave length of 400 meters and we have been assigned the common wave length of 360 meters. This means that we must operate in common with fourteen other broadcasting stations in this zone. The stations which are now operating are using all of the available time and we are now negotiating in an endeavor to obtain suitable hours during which we may begin operations. In order to start in an experimental way and more in the nature of a demonstration of what we can do, we have requested that we be assigned the hours of 11:00 to 12:00 A.M.; 4:30 to 5:30 P.M. each week day, and Thursday evening from 7:30 P.M. to midnight. It

is expected that we will receive this assignment in the very near future, and we will then start negotiations with our prospective users of the facilities. Already, without any soliciting or canvassing, approximately one hundred persons have made application.

From "Notes on Recent Occurrences."

STANDARD FEATURES were "Technical Papers published during the Quarter Just Ended," and "Notes on Recent Occurrences." In the latter section of the QUARTERLY were an account of a ship-to-shore radio demonstration at Harrisburg; reports of the use of the Bell System's newly developed loud speaker system at a number of public occasions; comments on the new radio law and radio regulations; an analysis of subscribers to the preferred stock of the Wisconsin Telephone Company; an announcement of the forthcoming *"Bell System Technical Journal;"* and a statement that Theodore N. Vail had been selected by the Old Time Telegraphers as the first among five men who had done the most for the commercial development of the telegraph.

TRAMPING lower Broadway, studying signs of many kinds, I had come to believe that the best color scheme for such a sign would be blue on white, with plenty of blue. Alone in my office with the samples at hand, I took a large pad of paper and tried to study the question from the bottom up. We wanted a sign for Alexander Graham Bell's telephone. With that as the fundamental I sketched on the paper the outline of a bell. To the next question, "What kind of telephone are we to advertise?" there was but one answer, the long distance telephone. And so I printed within the outline of the bell the words "Long Distance Telephone." This looked good to me and, deciding to follow the color scheme described, I had a blueprint made from the drawing and discussed it with my associates. They liked it. The original sketch and blueprint were approved by Edward J. Hall, Jr., general manager of the company, my superior officer, on January 5, 1889, together with the words "Standard Bell, use no other form." So was born the Blue Bell of the telephone.

From "Hello-Goodbye," autobiography of the late Angus Hibbard, first general superintendent of the A. T. & T. Company

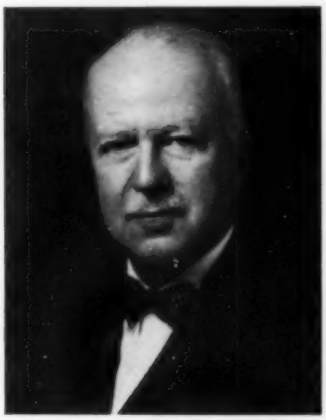
Who's Who & What's What

in This Issue

A STATEMENT of the Bell System career of President WALTER S. GIFFORD was given in the Spring issue of this MAGAZINE, in which was published his tribute to Alexander Graham Bell on the occasion of the latter's centennial.

"WHY DO YOU have to teach people how to use the telephone?" is a question with which telephone people are almost as familiar as the perennial "Why does the telephone company have to advertise?" It is to the former that JUSTIN E. HOY provides some illuminating answers. He started to learn them in 1929, when he joined the Southwestern Bell Telephone Company at Parsons, Kans. Successively a salesman of directory advertising, of exchange, toll, and TWX services, sales supervisor, and sales training supervisor, his last assignment with the Southwestern Company was supervising the company's servicing work with large business firms in the Kansas City division. A year ago he transferred to the commercial division of the A. T. & T. Company's O. & E. Department, where he has since been busy in the sales and servicing section on business exchange servicing activities.

STAFF AND FIELD ASSIGNMENTS in the New York Telephone Company's Traffic Department brought JOHN G. SIMMONS experience in manual, dial, information, and toll operation between 1922 and 1945. In the latter year he transferred from his post as General Traffic Supervisor in the Long Island Area to the Personnel Relations Department of the A. T. & T. Company. There he is concerned with personnel matters relating to the General Departments as well as with System recreational activities and thrift plans and with the Telephone Pioneers.



Walter S. Gifford

Justin E. Hoy

John G. Simmons

Temple C. Smith

THE ARTICLE beginning on page 90 is TEMPLE C. SMITH'S seventh contribution to these pages since 1925. All have had to do with plant affairs, and all but the first with motor vehicles. The most recent, "Plowing Cables into the Ground," appeared in the issue for June 1942. Mr. Smith is recognized outside as well as throughout the Bell System as both pioneer and expert in his special field of automotive and construction apparatus designing. He joined the New York Telephone Company in 1910, and since 1921 has been with A. T. & T.

R. P. C. JONES 14TH ST. 8TH FL.

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